

WHAT IS CLAIMED IS:

1. An electrical power supply for providing electrical power to a load, the power supply comprising:
 - a plurality of energy storage elements each having a different operating characteristic and connected in an electrical circuit to said load;
and
 - a circuit element interposed between at least one of said storage elements and said load and operable to segregate said one of said energy storage elements therefrom, said circuit element being selected to match supply of energy to said load to said characteristics of said storage elements.
2. An electrical power supply according to claim 1 wherein said storage elements are connected in parallel and said circuit element is interposed between a pair of said storage elements.
3. An electrical power supply according to claim 2 including a power monitoring unit to monitor one of said energy storage elements and vary the demand thereon from said load.
4. An electrical power supply according to claim 3 wherein said power monitoring unit determines the maximum current to be supplied to said load.
5. An electrical power supply according to claim 3 wherein said power monitoring unit is operable to disconnect said one energy storage element from said circuit upon attainment of predetermined conditions.

6. An electrical power supply according to claim 2 wherein said one energy storage element is operable to replenish energy in other of said energy storage elements.
7. An electrical power supply according to claim 6 wherein power supply from said one storage element to said other of said storage elements is limited to match the characteristics of said one storage element.
8. A power supply according to claim 1, wherein:
said circuit element is an inductor.
9. A power supply according to claim 1, wherein:
the energy storage elements include at least one battery cell.
10. A power supply according to claim 9, further comprising:
a diode connected between the at least one battery cell and the load;
wherein the diode inhibits in-rush currents from the load to the at least one battery.
11. A power supply according to claim 9, wherein:
the at least one battery cell is a Lithium Polymer cell.
12. A power supply according to claim 1, wherein:
the energy storage elements include at least one super capacitor.
13. A power supply according to claim 1, wherein:
the energy storage elements include at least one electrolytic capacitor.
14. A power supply according to claim 1, further comprising:

at least one in-rush current limiter connected to at least one of the energy storage elements.

15. A power supply according to claim 1, further comprising:

a shunt controller connected to the bus, the shunt controller having an associated resistor and an associated switch;

wherein the shunt controller monitors the power supply's voltage level and closes its associated switch in response to a preset maximum voltage level being attained, the closing of the shunt controller's associated switch resulting in the dissipation of energy into its associated resistor.

16. A power supply according to claim 1, wherein:

supply of power from said energy storage elements to said load is controlled by a power drive controller operable to match the current requirements from said storage elements with requirements of said load

17. A power supply according to claim 16, wherein: at least one of said energy storage elements is monitored by a power monitoring unit to match requirements of said controller to available power.

18. A power supply according to claim 17 wherein said power monitoring unit provides a control signal to said power drive controller indicative of the power saturation level of said one of said storage elements